

WHAT IS CLAIMED IS:

1. A test method for testing an electro-optical device using a test circuit which operates in response to an action command signal periodically changing a level thereof, the electro-optical device including a pixel electrode which is arranged at an intersection of each of scanning lines and each of data lines and serves as one electrode of a capacitor, and a pixel switching element connected between the pixel electrode and the data line, the method comprising:

supplying the pixel electrode with a data signal by turning on the pixel switching element;

turning on a test switching element connected between the pixel electrode and the data line at a timing delayed from a timing of a level change of the action command signal in the course of outputting a voltage supplied to the pixel electrode to a reading signal-line by using the test circuit; and

determining whether the voltage output to the reading signal-line corresponds to a voltage responsive to the data signal supplied to the pixel electrode.

2. A test circuit for testing an electro-optical device including a pixel electrode which is arranged at an intersection of each of scanning lines and each of data lines and serves as one electrode of a capacitor, and a pixel switching element connected between the pixel electrode and the data line, the test circuit outputting a voltage supplied to the pixel electrode to a reading signal-line after supplying a data signal to the pixel electrode by turning on the pixel switching element, in order to determine whether the voltage supplied to the pixel electrode corresponds to a voltage responsive to the data signal, the test circuit comprising:

a test switching element connected between the data line and the reading signal-line; and

a control circuit which operates in response to an action command signal periodically changing a level thereof, and which turns on the test switching element at a timing delayed from a timing of a level change of the action command signal.

3. The test circuit for testing an electro-optical device according to claim 2, the control circuit turning on the test switching element at a timing delayed from the timing of the level change of the action command signal by a duration of time falling within a range from one-eighth to one-quarter the period of the action command signal.

4. The test circuit for testing an electro-optical device according to claim 2, further including an input terminal that inputs the action command signal to the control

circuit and an output terminal of the reading signal-line, the input and output terminals being arranged on opposed ends of the control circuit.

5. The test circuit for testing an electro-optical device according to claim 2, the control circuit including an output device that outputs a control signal that changes the level thereof in response to the action command signal, and a timing modification device that delays a timing of a level change of the control signal from the timing of the level change of the action command signal.

6. The test circuit for testing an electro-optical device according to claim 5, the timing modification device being a delay device.

7. A test circuit for testing an electro-optical device including a pixel electrode which is arranged at an intersection of each of scanning lines and each of data lines and serves as one electrode of a capacitor, and a pixel switching element connected between the pixel electrode and the data line, the test circuit outputting a voltage supplied to the pixel electrode to a reading signal-line after supplying a data signal to the pixel electrode by turning on the pixel switching element, in order to determine whether the voltage supplied to the pixel electrode corresponds to a voltage responsive to the data signal, the test circuit comprising:

- a test switching element connected between the data line and the reading signal-line;
- a control circuit which turns on the test switching element in response to an action command signal periodically changing a level thereof;
- an input terminal that inputs the action command signal to the control circuit; and
- an output terminal, arranged at an end of the control circuit opposite to the input terminal, that outputs a voltage of the reading signal-line.

8. An electro-optical device, comprising:

- scanning lines;
- data lines intersecting the scanning lines;
- a pixel electrode which is arranged at the intersection of each of the scanning lines and each of the data lines, the pixel electrode serving as one electrode of a capacitor;
- a pixel switching element connected between the pixel electrode and the data line;
- a reading signal-line; and

a test circuit which outputs a voltage, supplied to the pixel electrode, to the reading signal-line after supplying a data signal to the pixel electrode by turning on the pixel switching element, in order to determine whether the voltage supplied to the pixel electrode corresponds to a voltage responsive to the data signal, the test circuit including:

a test switching element connected between the data line and the reading signal-line; and

a control circuit which operates in response to an action command signal periodically changing a level thereof, and which turns on the test switching element at a timing delayed from a timing of a level change of the action command signal.

9. The electro-optical device according to claim 8, the control circuit turning on the test switching element at a timing delayed from the timing of the level change of the action command signal by a duration of time falling within a range from one-eighth to one-quarter the period of the action command signal.

10. The electro-optical device according to claim 8, further including an input terminal that inputs an action command signal to the control circuit and an output terminal, arranged at an end of the control circuit opposite to the input terminal, that outputs a voltage of the reading signal-line.

11. The electro-optical device according to claim 8, the capacitor being formed of the pixel electrode serving as one electrode, a counter electrode serving as the other electrode, and an electro-optical material sandwiched between the one electrode and the other electrode.

12. The electro-optical device according to claim 8, further including a storage capacitor having one electrode thereof connected to the pixel electrode and the other electrode thereof connected to a capacitive line.

13. The electro-optical device according to claim 8, the control circuit including an output device that outputs a control signal that changes the level thereof in response to the action command signals, and a timing modification device that delays the timing of the level change of the control signal from the timing of the level change of the action command signal.

14. The electro-optical device according to claim 13, the timing modification device being a delay device.

15. An electro-optical device, comprising:  
scanning lines;  
data lines intersecting the scanning lines;

a pixel electrode arranged at the intersection of each of the scanning lines and each of the data lines, the pixel electrode serving as one electrode of a capacitor;

a pixel switching element connected between the pixel electrode and the data line;

a reading signal-line; and

a test circuit which outputs a voltage supplied to the pixel electrode to the reading signal-line after supplying a data signal to the pixel electrode by turning on the pixel switching element, in order to determine whether the voltage supplied to the pixel electrode corresponds to a voltage responsive to the data signal, the test circuit including:

a test switching element connected between the data line and the reading signal-line;

a control circuit which turns on the test switching element in response to an action command signal periodically changing the level thereof;

an input terminal that inputs the action command signal to the control circuit; and

an output terminal, arranged at an end of the control circuit opposite to the input terminal, that outputs a voltage of the reading signal-line.

16. A piece of electronic equipment, comprising:  
the electro-optical device according to claim 8.